

What Is Claimed Is:

1. An image sensor for capturing image, comprising:
a plurality of pixels arranged in a matrix, each
5 including a photoelectric conversion element for generating
current according to received light intensity and a reset
transistor for resetting a node of the photoelectric
conversion element to a reset potential; and

a sample hold circuit for sample holding a pixel
10 potential according to a potential of said node of said
pixels,

wherein said sample hold circuit outputs, as a pixel
signal, a differential potential between a first pixel
potential at an end of an integration period after a first
15 reset operation of said pixels and a second pixel potential
at an end of a reset noise read period after a second reset
operation after said integration period, and

in said sample hold circuit, when said pixel potential
during said reset noise read period exceeds a predetermined
20 threshold level, said pixel potential is set to a
predetermined reference potential.

2. The image sensor according to Claim 1, wherein
said predetermined reference potential is said reset
25 potential.

3. The image sensor according to Claim 1, wherein the

setting of said predetermined threshold value can be changed to a plurality of levels.

4. The image sensor according to Claim 3, wherein the
5 setting of said predetermined threshold level can be changed according to the received light intensity from the captured image.

5. An image sensor for capturing image, comprising:
10 a plurality of pixels arranged in a matrix, each including a photoelectric conversion element for generating current according to received light intensity and a reset transistor for resetting a node of said photoelectric conversion element to a reset potential; and
15 a sample hold circuit for sample holding a pixel potential according to a potential of said node of said pixels,

wherein said sample hold circuit outputs, as a pixel signal, a first differential potential between a first pixel
20 potential at an end of an integration period after a first reset operation of said pixels and a second pixel potential at an end of a reset noise read period after a second reset operation after said integration period, and

said sample hold circuit outputs, as a pixel signal, a
25 second differential potential between said first pixel potential and the pixel potential at the first reset, instead of said first differential potential, when said pixel

potential during said reset noise read period exceeds a predetermined threshold level.

6. The image sensor according to Claim 5, wherein the
5 setting of said predetermined threshold level can be changed to a plurality of levels.

7. The image sensor according to Claim 5, wherein the
10 setting of said predetermined threshold level can be changed according to the received light intensity from the captured image.

8. An image sensor for capturing image, comprising:
a plurality of pixels arranged in a matrix, each
15 including a photoelectric conversion element for generating current according to received light intensity and a reset transistor for resetting a node of said photoelectric conversion element to a reset potential; and

a sample hold circuit for sample holding a pixel
20 potential according to the potential of said node of said pixels,

wherein said sample hold circuit outputs, as a pixel
signal, a differential potential between a first pixel
potential at an end of an integration period after a first
25 reset operation of said pixels and a second pixel potential at an end of a reset noise read period after a second reset operation after said integration period, and

said sample hold circuit further comprises a control circuit which detects that said pixel potential exceeds a predetermined threshold level in said reset noise read period so as to set said second pixel potential to the reset potential.

9. The image sensor according to Claim 8, wherein the setting of said predetermined threshold level can be changed to a plurality of levels.

10. The image sensor according to Claim 8, wherein the setting of said predetermined threshold level can be changed according to the received light intensity from the captured image.